

CLAIMS

1. An image forming method comprising the steps of:  
performing surface-modifying processing on a surface  
5 of an intermediate transfer body by applying energy to  
the surface;

forming an image on the surface-modified intermediate  
transfer body by ejecting ink from an ink jet printing  
means; and

10 transferring the image formed on the intermediate  
transfer body onto a print medium.

2. An image forming method according to claim 1,  
wherein the surface of the intermediate transfer body  
contains at least one of a fluorine compound and a  
15 silicone compound.

3. An image forming method according to claim 1 or 2,  
wherein the surface of the intermediate transfer body is  
formed of an elastic material with a hardness of between  
10 and 100 degrees.

20 4. An image forming method according to any one of  
claims 1 to 3, wherein the surface-modifying processing  
through the application of energy is plasma processing  
performed at an atmospheric pressure or reduced pressure.

5. An image forming method according to any one of  
25 claims 1 to 4, wherein the surface-modifying processing  
through the application of energy is additionally

performed at an arbitrary interval.

6. An image forming method according to any one of claims 1 to 5, further comprising a step of applying a first liquid for increasing an ink viscosity prior to  
5 ejecting ink onto the surface of the intermediate transfer body.

7. An image forming method according to claim 6, wherein the first liquid is an aqueous solution containing at least metal ions.

10 8. An image forming method according to claim 6 or 7, further comprising a step of applying a second liquid for improving a wettability of the surface of the intermediate transfer body prior to ejecting the first liquid to the surface.

15 9. An image forming method according to any one of claims 1 to 8, further comprising a step of promoting a removal of water from the ink on the intermediate transfer body prior to transferring the ink image onto the print medium.

20 10. An image forming method according to any one of claims 1 to 9, further comprising a step of cleaning the surface of the intermediate transfer body at least after the transfer step or before the surface-modifying processing step.

25 11. An image forming method comprising the steps of: providing an intermediate transfer body having a

surface containing at least one of a fluorine compound and a silicone compound, and being surface-modified through plasma processing for modification of the surface;

- 5       forming an image on the intermediate transfer body by ejecting ink from an ink jet printing means; and  
transferring the image formed on the intermediate transfer body onto a print medium.

12. An image forming apparatus comprising:

- 10       means for mounting an intermediate transfer body being surface-modified through application of energy for modification of the surface;

- means for forming an image on the intermediate transfer body mounted on the mounting means by ejecting  
15 ink from an ink jet printing means; and

means for transferring the image formed on the intermediate transfer body onto a print medium.

13. An image forming apparatus comprising:

- means for mounting an intermediate transfer body  
20 having a surface containing at least one of a fluorine compound and a silicone compound, and being surface-modified through plasma processing for modification of the surface;

- means for forming an image on the intermediate  
25 transfer body mounted on the mounting means by ejecting ink from an ink jet printing means; and

means for transferring the image formed on the intermediate transfer body onto a print medium.

14. An image forming method using an intermediate transfer body being surface-modified through application  
5 of energy for modification of the surface, the method comprising the steps of:

applying a first liquid for increasing an ink viscosity to the intermediate transfer body;

forming an image by ejecting ink from an ink jet  
10 printing means onto the intermediate transfer body already applied with the first liquid; and

transferring the image formed on the intermediate transfer body onto a print medium.

15 15. An image forming apparatus method comprising the steps of:

providing an intermediate transfer body having a surface containing at least one of a fluorine compound and a silicone compound, and being surface-modified through plasma processing for modification of the  
20 surface;

applying a first liquid for increasing an ink viscosity to the intermediate transfer body;

forming an image by ejecting ink from an ink jet printing means onto the intermediate transfer body  
25 already applied with the first liquid; and

transferring the image formed on the intermediate

transfer body onto a print medium.

16. A surface-modifying method of an intermediate transfer body comprising a step of surface-modifying through application of energy, the intermediate transfer  
5 body being used for forming an image formed of ink onto the surface, and for transferring the image formed on the surface onto a print medium.

17. A surface-modifying method of an intermediate transfer body comprising the steps of:

10 providing an intermediate transfer body having a surface containing at least one of a fluorine compound and a silicone compound, and being used for forming an image formed of ink onto the surface, and for transferring the image formed on the surface onto a  
15 print medium, and;

surface-modifying the provided intermediate transfer body through application of energy for modification of the surface.

18. An intermediate transfer body being surface-  
20 modified through application of energy, and being used for forming an image formed of ink onto the surface, and for transferring the image formed on the surface onto a print medium.

19. An intermediate transfer body having a surface  
25 containing at least one of a fluorine compound and a silicone compound, being surface-modified through plasma

processing for modification of the surface, and being used for forming an image formed of ink onto the surface, and for transferring the image formed on the surface onto a print medium.

- 5        20. An image forming method comprising the steps of:  
performing surface-modifying processing on a surface of an intermediate transfer body through plasma processing and surfactant application, the surface containing at least one of a fluorine compound and a  
10    silicone compound;

forming an image on the surface-modified intermediate transfer body by ejecting ink; and

transferring the image formed on the intermediate transfer body onto a print medium.

- 15       21. An image forming method comprising the steps of:  
providing an intermediate transfer body having a surface containing at least one of a fluorine compound and a silicone compound, and being surface-modified through plasma processing and application of a  
20    surfactant for modification of the surface;

forming an image on the surface-modified intermediate transfer body by ejecting ink from an ink jet printing means; and

- transferring the image formed on the intermediate  
25    transfer body onto a print medium.

22. An image forming apparatus using an intermediate

transfer body having a surface containing at least one of a fluorine compound and a silicone compound, the apparatus comprising:

means for surface-modifying processing on the  
5 intermediate transfer body through plasma processing and surfactant application,

means for forming an image on the surface-modified intermediate transfer body by ejecting ink; and

means for transferring the image formed on the  
10 intermediate transfer body onto a print medium.

23. An image forming apparatus comprising:

means for mounting an intermediate transfer body having a surface containing at least one of a fluorine compound and a silicone compound, and being surface-  
15 modified through plasma processing and surfactant application for modification of the surface;

means for forming an image on the intermediate transfer body mounted on the mounting means by ejecting ink from an ink jet printing means; and

20 means for transferring the image formed on the intermediate transfer body onto a print medium.

24. An image forming method comprising the steps of:  
subjecting a surface of an intermediate transfer body to plasma processing;

25 applying a liquid onto the intermediate transfer body after plasma processing, the liquid containing a

surfactant for improving a wettability of the surface of the intermediate transfer body;

applying a reactant liquid for reacting to ink onto the intermediate transfer body to which the liquid

5 containing the surfactant was applied;

forming an image on the intermediate transfer body after application of the reactant liquid by ejecting ink from an ink jet printing means; and

transferring the image formed on the intermediate  
10 transfer body onto a print medium.

25. An image forming method comprising the steps of:

providing an intermediate transfer body having a surface containing at least one of a fluorine compound and a silicone compound, and being surface-modified

15 through plasma processing and application of a liquid containing a surfactant for modification of the surface;

applying a liquid onto the intermediate transfer body after plasma processing, the liquid reducing the fluidity of an ink on the intermediate transfer body;

20 forming an image on the intermediate transfer body after application of the liquid by ejecting ink from an ink jet printing means; and

transferring the image formed on the intermediate transfer body onto a print medium.